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EXAMINER

AKKAPEDDI, PRASAD R

ART UNIT PAPER NUMBER

2871

DATE MAILED: 05/23 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/717,138

Applicant(s)

YAMAZAKI ET AL.

Examiner

Prasad R Akkapeddi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-100 is/are pending in the application.
- 4a) Of the above claim(s) 1,2,5,6,9-76,85-87 and 94-96 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3,4,7,8,77-84,88-93 and 97-100 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Species I in Paper No. 5 is acknowledged. However, the Applicant cancels claims 2,5,6 and 9, adds new claims 97-100 and argues that claims 3,4,7,8,77-79 and 97-100 are generic. The Examiner does not agree with this argument. Examiner instead, agrees that only claim 3 is generic. Hence, claims 3,4,7,8,77-79, 80-84,88-90,91-93 and 97-100 have been considered for examination based on the applicant's arguments and only claim 3 is considered generic.

### ***Specification***

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Double Patenting***

3. Claim 3 is objected to under 37 CFR 1.75 as being a substantial duplicate of claims 4 and 7. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

4. Claim 78 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 79. When two claims in an application are duplicates or else are so close in

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content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

5. Claim 97 is objected to under 37 CFR 1.75 as being a substantial duplicate of claims 98 and 99. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3,4,7,8, 77-84, 88-90, 91-93 and 97-100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa (U.S. Patent No. 6,195,143) in view of Hirakata et al. (Hirakata) (U.S. Patent No. 5,982,471).

As to claims 3,4,7 and 8: Ogawa discloses a liquid crystal panel comprising: a first substrate (821) including a plurality of pixel electrodes (823), a second substrate (825) including a counter electrode (824), a liquid crystal (827), a micro-lens array (830) including a plurality of micro-lenses. Ogawa discloses that the first substrate faces the second substrate through the plurality of pixel electrodes, the counter electrode, the

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liquid crystal (Fig. 3) and the micro-lens array is provided on a surface of the second substrate (825), the surface being opposite to a surface that faces the first substrate (821). Ogawa also discloses that the plurality of lenses (830) are provided on one-on-one basis with respect to the plurality of pixels (823), see Fig. 6 and (col. 8, lines 63-67), as recited in the instant claim 8.

Although, in Fig. 6 Ogawa shows the end gap holding member (not numbered), Ogawa does not explicitly disclose the gap holding members in the text. Hirakata on the other hand, in disclosing a liquid crystal display contact structure, discloses gap-holding members (401). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the gap holding members to provide less non-uniform cell gap (otherwise to provide uniform gap) and reduce poor electrical contacts within the display panel (col. 3, lines 17-24).

As to claims 77-79 and 97-100: Ogawa discloses a liquid crystal projector (Fig. 10D) comprising a white light source (110), splitting means (200) for splitting white light emitted from the white light source into a plurality of lights having different colors (R,G,B), a plurality of liquid crystal panels (250,252,254) respectively corresponding to the plurality of lights; first optical means (120) for irradiating the plurality of lights to the plurality of corresponding liquid crystal panels; and second optical means (270) for condensing a plurality of transmitted lights transmitted through the plurality of liquid crystal panels, wherein: the plurality of liquid crystal panels includes a first substrate (821), a second substrate (825), the plurality of lights are irradiated from a side of the second substrate (825) to the liquid crystal panel, a pixel portion including a plurality of

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pixels (823) is provided on the first substrate (821), each of the plurality of pixels includes a pixel electrode (823) and a thin film transistor (822) connected to the pixel electrode, a micro-lens array (830) is provided at a side of the second substrate (825). Ogawa also discloses that the plurality of lenses (830) are provided on one-on-one basis with respect to the plurality of pixels (823), see Fig. 6 and (col. 8, lines 63-67), as recited in the instant claims 78, 79 and 100.

Although, in Fig. 6 Ogawa shows the end gap holding member (not numbered), Ogawa does not explicitly disclose the gap holding members in the text. Hirakata on the other hand, in disclosing a liquid crystal display contact structure, discloses gap-holding members (401). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the gap holding members to provide less non-uniform cell gap (otherwise to provide uniform gap) and reduce poor electrical contacts within the display panel (col. 3, lines 17-24).

As to claims 80-81: Ogawa discloses a liquid crystal projector with a liquid crystal panel. Ogawa does not go in to the details of the TFT and active matrix panel itself. Hirakata in disclosing a liquid crystal display discloses that the thin film transistor includes plurality of pixels (pixel region), a semiconductor film including a source region (310), a drain region (311) and a channel formation region (314) which are connected to the pixel electrodes and a plurality of gap holding members (402) provides over the contact portions.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the gap holding members to provide less non-

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uniform cell gap (otherwise to provide uniform gap) and reduce poor electrical contacts within the display panel (col. 3, lines 17-24).

8. Claims 82-84, 88-90 and 91-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa and Hirakata as applied to claims 77, 78 and 79 above, and further in view of Shimuzu et al. (Shimuzu) (U.S. Patent No. 5,739,882).

Ogawa discloses a liquid crystal projector with a liquid crystal panel. Ogawa does not go in to the details of the gap holding members. Hirakata discloses that the gap holding members (401 and 402) are circular shape but does not disclose that the gap holding members are made from UV curable epoxy resin and have column shape.

Shimuzu in disclosing a LCD polymerized spacer, discloses that the spacers (gap holding members) have a column shape (17) and are made from UV curable epoxy resin (col.2, lines 39-55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the gap holding members to provide the gap holding members made from a resin material such that they do not change the state of the liquid crystal orientation (col. 2, lines 1-6) and further by using such polymerized column spacers, light shielding film can be eliminated from the liquid crystal panel (col.16, lines 48-59).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.

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May 7, 2003

  
T. Chowdhury  
Primary Examiner